

Pediatrics – H&P #3

Chief complaint: “Itchy rash” x 3 days

History of Present Illness

A 4-year-old male with no significant past medical history presents to the pediatric office with his father for evaluation of a pruritic rash that developed three days ago. The father reports that he first noticed the rash after his son spent most of the day in the pool. The patient has been scratching his arms and thighs since the onset of the rash, and the itching has been worsening. The father has been applying calamine lotion, which has provided some relief. The patient is currently asymptomatic otherwise, and the father denies any additional symptoms. There have been no episodes of fever, sore throat, dyspnea, cough, nausea, vomiting, or diarrhea. The father also denies any recent travel or exposure to sick contacts.

Past Medical History

- No Past Medical History
- UTD with vaccinations

Past Surgical History

- No past surgical history
- Denies blood transfusions and past injuries

Medications

- No medications or supplements

Allergies

- NKDA
- no environmental or food allergies

Family History

- Father - alive and healthy
- Mother - alive and healthy
- Brother- 2 years old, alive and healthy

Social History

- Patient lives at home with parents and father. Follow-up regularly with pediatrician.
- No smokers at home and one dog.
- Education – Student.
- Travel – Denies recent travel
- Diet – Father admits to following a well-balanced diet

Review of Systems

- General – Father denies fever, headache, weakness or recent weight loss.

Skin, hair, nails – Admits to the rash on the face, upper, and lower extremities. Denies changes in changes in hair distribution.

Ears – Denies ear pain, muffled sound, deafness, discharge, or sensation of fullness.

Nose/sinuses – Denies discharge, obstruction or epistaxis.

Mouth/throat – Denies sore throat, bleeding gums, mouth ulcers, voice changes.

Neck - Denies localized swelling/lumps or stiffness/decreased range of motion.

Pulmonary System – Admits to a cough but denies dyspnea. wheezing, dyspnea on exertion, hemoptysis, cyanosis, orthopnea.

Cardiovascular System – Denies chest pain, HTN, irregular heartbeat, edema/swelling of ankles or feet, syncope, or known heart murmur.

Gastrointestinal System – Denies nausea, vomiting, diarrhea, abdominal pain, or jaundice

Genitourinary System – Denies urinary frequency, dysuria

Physical exam

General: Young male appears his stated age, height and weight, awake, neatly groomed, alert and oriented x 4, well-developed, well nourished, patient is in no acute distress, has good color, very cooperative during physical exam and can ambulate without assistance.

Vital signs:

BP: 90/60 mm Hg, sitting L arm

R: 22 breaths/min, unlabored

P: 104 beats/min, regular

T: 98.0 degrees F (taken by ear)

Weight: 40 lbs

Hair: Average quantity and distribution. No signs of lice or dandruff.

Skin: Erythematous malar rash on both cheeks and circumoral pallor. Maculopapular rash on flexor surface of both forearms and on the inner thighs bilaterally. The rash spares the trunk, palms, and soles. Warm and moist, good turgor. Noncitrific, no lesions, scars, or tattoos noted.

Nails: No clubbing, cyanosis, or lesions. Capillary refill < 2 seconds in upper and lower extremities.

Eyes: Sclera white, cornea clear, conjunctiva pink. Symmetrical OU. Pupils are equal, round, and reactive to light. No strabismus, exophthalmos or ptosis. Red reflex present.

Ears: External ears with no masses, lesions, or discharge. No tenderness noted with pulling pinna. No tenderness present with insertion of speculum. No swelling or erythema noted in the ear canal AU. No discharge/foreign bodies in external auditory canals AU. TMs pearly white/intact with light reflex in good position AU.

Nose: No signs of masses, lesions, deformities, or trauma. No signs of nasal congestion.

Mouth: Lips pink and moist with no cyanosis or lesions. Buccal mucosa, palate, and gingivae

are pink and well hydrated. No masses or lesions. Normal dentition, with no signs of dental caries.

Pharynx: Oropharyngeal clear. Tonsils +1 with no tonsillar exudates.

Neck: No lymphadenopathy present.

Chest: Respirations unlabored / Chest expansion and diaphragmatic excursion symmetrical. No paradoxical respirations or use of accessory muscles noted.

Lungs: Clear to auscultation bilaterally. No adventitious sounds with no evidence of drooling or stridor noted.

Heart: Regular rate and rhythm (RRR). S1 and S2 are distinct with no murmurs, S3 or S4. No splitting of S2 or friction rubs appreciated.

Differential Diagnosis

Erythema infectiosum: commonly known as "fifth disease," is a mild febrile illness caused by Parvovirus B19, primarily affecting school-aged children but also occurring in adults. The illness typically begins with nonspecific symptoms such as fever, headache, and coryza, coinciding with viremia. Two to five days later, a characteristic erythematous malar rash with circumoral pallor, known as the "slapped cheek" rash, appears, often followed by a reticulated rash on the trunk and extremities. The incubation period ranges from one to three weeks. Although the rash is immunologically mediated and appears after viremia resolves, some patients may experience recurrent rash triggered by factors like temperature changes or emotional stress. EI can also present with various other skin eruptions and, in adults, is frequently associated with arthralgias. The described clinical features and course of EI support its inclusion as a primary differential diagnosis.

Heat rash: or miliaria, is similar to erythema infectiosum and would be a differential diagnosis due to its cutaneous presentation and prevalence in children. Miliaria, caused by blockage of the eccrine sweat ducts, manifests as a rash characterized by clusters of tiny bubbles or small pimples, typically occurring in hot and humid conditions or after physical activity. The rash primarily affects the head, neck, chest, and areas where skin rubs together, similar to the rash distribution seen in erythema infectiosum. Miliaria can present with erythematous papules, vesicles, or pustules, which may resemble the various skin eruptions associated with erythema infectiosum. Both conditions share a commonality in their rash presentation, potential for recurrence under certain stimuli, and higher occurrence rates in children, making miliaria an important differential when diagnosing erythema infectiosum.

Scarlet fever: also known as scarlatina, is similar to erythema infectiosum and should be considered a differential diagnosis due to its distinctive rash and associated symptoms. Scarlet fever is characterized by a diffuse erythematous rash that typically starts in the groin and armpits and rapidly spreads to cover the trunk and extremities. The rash, which has a "sandpaper" quality and blanches with pressure, is accompanied by circumoral pallor and a strawberry tongue. This rash can resemble the reticulated or lacelike rash seen in erythema infectiosum. Both conditions present with a prominent rash in children and can be associated with systemic symptoms.

However, scarlet fever is specifically linked to a preceding pharyngitis caused by Group A Streptococcus, distinguishing it from erythema infectiosum, which is caused by Parvovirus B19.

Contact dermatitis: similar to erythema infectiosum and should be considered a differential diagnosis due to its pruritic and erythematous rash presentation. Allergic contact dermatitis, a delayed-type hypersensitivity reaction, occurs in both children and adults after direct contact with an allergen. It manifests as itchy, erythematous, scaly patches and plaques in the areas of skin exposure, similar to the rash seen in erythema infectiosum. The delayed onset of allergic contact dermatitis, typically taking several days to appear after exposure, can resemble the progression of erythema infectiosum. Both conditions can present with excoriated lesions and can be challenging to diagnose, especially in children. Differentiating between them involves considering the patient's exposure history, the distribution of the rash, and the possibility of coexisting conditions such as atopic dermatitis.

Rubella: often referred to as "German measles," is similar to erythema infectiosum and should be considered a differential diagnosis due to its comparable rash presentation and clinical features. Rubella typically presents with a generalized maculopapular rash that starts on the face and rapidly spreads to the trunk and extremities, sparing the palms and soles. This rash, along with low-grade fever and posterior cervical and auricular lymphadenopathy, can resemble the rash seen in erythema infectiosum, which also features a facial rash that spreads to other parts of the body. Both conditions can present with minimal systemic symptoms and are particularly prevalent in children, making rubella a relevant consideration when diagnosing erythema infectiosum.

Measles: would be considered a differential diagnosis due to its rash presentation and progression. Both conditions can present with a facial rash that spreads to other parts of the body. In measles, the rash begins on the face and spreads downward to the trunk and extremities, becoming an erythematous, maculopapular, and blanching rash, which can be reminiscent of the reticulated or lacelike rash in erythema infectiosum. Measles also shares some initial symptoms with erythema infectiosum, including fever and malaise, and can be preceded by a prodrome of respiratory symptoms. However, measles typically presents with additional features such as Koplik spots on the buccal mucosa and a more widespread rash pattern. The clinical overlap in rash appearance and systemic symptoms makes measles a relevant consideration in the differential diagnosis of erythema infectiosum.

Roseola infantum: should be considered in the differential diagnosis due to its rash presentation and progression. Both conditions can follow a febrile prodrome and feature a rash that starts on the trunk and spreads to other areas of the body. In roseola, high fever typically resolves abruptly, and a blanching maculopapular rash appears on the neck and trunk, eventually spreading to the face and extremities. This rash, which may be nonpruritic and sometimes vesicular, can resemble the rash in erythema infectiosum, which also begins on the face and spreads downward. The clinical overlap in rash distribution and the sequence of fever followed by rash make roseola a relevant differential diagnosis when evaluating erythema infectiosum.

Urticaria: or hives, is similar to erythema infectiosum and would be considered a differential diagnosis due to its pruritic and erythematous presentation. Urticaria manifests as intensely itchy, erythematous plaques that can vary in size and shape, similar to the rash seen in erythema infectiosum. The lesions are often transient, appearing and enlarging within minutes to hours, and typically resolving within 24 hours. Urticaria can be triggered by various factors, such as drugs,

food, insect stings, or infections, but in many cases, no specific cause is identified. Both conditions present a significant pruritic component and erythematous appearance, making urticaria a relevant differential diagnosis when evaluating a patient suspected of having erythema infectiosum.

Assessment

A 4-year-old male presents with a erythematous malar rash on both cheeks and pruritic maculopapular lesions on the flexor surfaces of the arms and inner thighs, consistent with erythema infectiosum (fifth's disease). The plan is to provide supportive treatment, as fifth's disease is benign in healthy children and is self-limiting.

Plan

- Reassure the father that fifth's disease is self-limiting and that the rash will resolve within 2-3 weeks.
- Inform him that the child is not contagious once the rash appears.
- Note that sunlight may make the rash more apparent.
- Advise the father to continue applying calamine lotion, which has already helped provide relief. Additional supportive treatment may include taking an antihistamine such as Zyrtec to help with pruritus.